Amendments to the Claims:

1 - 32. (canceled)

33. (Previously presented) Method of operating a plasma-generating device for treatment of a gaseous medium, comprising the steps of:

(i) detecting a contamination level of said gaseous medium; and

(ii) according to said detected contamination level, modulating at least one electrical signal of said device.

34. (Previously presented) Method according to claim 33, wherein the electrical signal is chosen from the group consisting of the alternating voltage being supplied to at least one pair of plasma electrodes, the current, or combinations thereof.

35. (Previously presented) Method according to claim 35, comprising the following steps:

(a) the creation, in a confinement chamber, of a standing magnetic field (B) with a high degree of uniformity, the vector representing the standing magnetic field (B) being located along a longitudinal axis X-X' passing through the confinement chamber, the value of this standing magnetic field (B) being variable,

(b) the creation of the plasma in the confinement chamber (1), in the presence of the standing magnetic field (B), by the emission in the gaseous medium of an electromagnetic signal (EM1, EM2), this emission being obtained by the application of at least one alternating voltage, the frequency and the amplitude of which are variable,

(c) the creation of at least one first variable electrical field (E1) in the plasma by the application of at least one alternating voltage, this alternating voltage having a variable amplitude and frequency and the vector representing the first electrical field (E1) being located on an axis perpendicular to the longitudinal axis X-X', (d) the

creation of at least one second electrical field (E2) in the plasma by the application of at least one alternating voltage, the amplitude and the frequency of this alternating voltage being approximately equal to the amplitude and the frequency of the alternating voltage generating the electrical field E1 and the vector representing the second electrical field (E2) being located on an axis not parallel to the axis on which the vector of the first electrical field (E1) is located,

(e) the application of electrical signals for controlling the value of the standing magnetic field (B), the frequency and the amplitude of the alternating voltages generating the electrical fields E1, E2 and the electromagnetic fields EM1, EM2, the application of these electrical signals being used to create (i) an electron cyclotron resonance (ECR) wherein the axis of the centripetal acceleration orbit of the electrons and of the other charged particles is parallel to the longitudinal axis X-X' (ii) of the electron cyclotron resonances (ECR) wherein the axes of the centripetal acceleration orbits of the electrons and of the other charged particles oscillate gyromagnetically.

36. (Currently amended) The method as claimed in claim ~~33~~ 35, wherein the plasma generated is a cold plasma.

37. (Currently amended) The method as claimed in claim ~~33~~ 35, which is applied to the decontamination of the ambient air and of any other gaseous medium, by destroying and/or transforming the atoms and molecules that make up the contaminants present in the ambient air or in the gaseous medium, by the electromagnetic and electromechanical energy of the plasma.

38. (Previously presented) The method as claimed in claim 37, wherein the contaminants are made up of one of the following types or a combination of the latter: microbic aerosols comprising pathogenic micro-organisms such as bacteria, spores, viral and retroviral particles, pathogenic proteinic agents such as prions; volatile and aromatic organic compounds, chlorofluorocarbons, various oxidizable and oxidizing

elements such as oxygen, nitrogen and sulfur; ozone; and fibers and particles originating from dust and smoke.

39. (Previously presented) The method as claimed in claim 37, wherein the air or any other contaminated gaseous medium is probed manually or automatically to determine the presence and/or the quantity per unit of volume of the various contaminants.

40. (Previously presented) The method as claimed in claim 39, wherein the information or data concerning the presence or the quantity per unit of volume of contaminants in the ambient air or in the gaseous medium is used to modulate the electrical signals.

41. (Previously presented) A plasma-generating device for treatment of a gaseous medium, comprising a control device and a powering system connected to said control device, and a detection device for detecting a level of contamination of said gaseous medium, wherein an electric signal of said plasma-generating device is modulated by said control device, according to the level of contamination detectable by said detection device.

42. (Previously presented) Plasma-generating device according to claim 41, wherein the electrical signal is chosen from the group consisting of the alternating voltage being supplied to at least one pair of plasma electrodes, the current, or combinations thereof.

43. (Previously presented) A plasma-generating device according to claim 41, wherein the plasma is of multipolar gyromagnetic electron cyclotron resonance (ECR) type, and which comprises:

(a) a gaseous medium confinement chamber (1) comprising at least one treatment chamber (40) which comprises at its upstream end a first perforated

transverse plate (2a) made of an electrically conductive material, a first perforated wall (3a) made of an electrically insulating material and opaque to the electromagnetic signals, fixed to the upstream side of the first perforated plate (2a), a second perforated transverse plate (2b) made of an electrically conductive material fixed to the upstream side of the first perforated wall (3), a second perforated transverse wall (3b) made of an electrically insulating material and opaque to the electromagnetic signals fixed to the upstream side of the second perforated plate (2b) and a third perforated transverse wall (32) parallel to the first perforated plate (2a) and axially spaced from the latter to delimit the confinement chamber, the third perforated wall made of an electrically insulating material and opaque to the electromagnetic signals, and situated at the downstream end of the treatment chamber (40) to allow the gas stream to leave through the third perforated wall,

(b) a means (4) for generating a first uniform magnetic field (B1), the vector representing this first magnetic field (B1) being parallel to the longitudinal axis X-X' of the treatment chamber (40), this longitudinal axis X-X' passing through the center of the first perforated plate (2) and the third perforated wall (32),

(c) a means (5) for generating, in the treatment chamber (40), a second uniform magnetic field (B2) in the first uniform magnetic field (B1), the vector representing the second magnetic field (B2) being parallel to and having the same direction as the vector representing the first uniform magnetic field (B1),

(d) a means (6, 7) for emitting an electromagnetic signal (EM1) in the gaseous medium of the treatment chamber (40) to produce free electrons in this gaseous medium, by the application to this means (6, 7) of at least one alternating voltage (V6; V7),

(e) a means (9, 10) for generating a first uniform electrical field (E1) in the plasma, by the application to this means (9, 10) of at least one alternating voltage (V6; V7), the amplitude and the frequency of which can be variable and the axis on which is located the vector representing the first uniform electrical field (E1) being perpendicular to the longitudinal axis X-X' of the treatment chamber (40),

(f) a means (12, 13) for generating one or more second electrical fields (E2) in the plasma, by the application to this means (12, 13) of a first alternating voltage (V6) and the axis on which is located the vector representing each second electrical field (E2) not being parallel to the axis on which is located the vector representing the first uniform electrical field (E1),

(g) a powering system (14) controlling the value of the first and second uniform magnetic fields (B1, B2), the frequency and the amplitude of the alternating voltages (V6; V7) and of the first alternating voltage (V6), this powering system (14) being used to generate

(i) an electron cyclotron resonance (ECR) wherein the axis of the centripetal acceleration orbit of the electrons and of the charged particles is parallel to the axis X-X' of the treatment chamber (40) (ii) of the electron cyclotron resonances (ECR), wherein the axes of the centripetal acceleration orbits of the electrons and of the charged particles oscillate gyromagnetically.

44. (Currently amended) The device as claimed in claim ~~41~~ 43, wherein the electrical power supply means (23) is a mains input source which supplies a mains voltage (V4) of approximately 220 V at a frequency of approximately 50 hertz.

45. (Currently amended) The device as claimed in claim ~~41~~ 43, wherein the powering system (14) comprises:

(a) an electrical power supply means (23) for this powering system (14) delivering an alternating voltage (V4),

(b) a means (35) for transforming the alternating voltage (V4) from the input source (23) into an intermediate alternating voltage (V5),

(c) a means (36) for varying the frequency of the intermediate alternating voltage (V5), and

(d) a means (28) for transforming this intermediate alternating voltage (V5) into the first and second output alternating voltages (V6; V7), and into the output current (I1).

46. (Previously presented) The device as claimed in claim 45, wherein the value of the intermediate alternating voltage (V5) is between approximately 10 and 50 volts.

47. (Previously presented) The device as claimed in claim 45, wherein the value of the first and second alternating voltages (V6; V7) is between 1 and 30 kilovolts at a frequency of between 5 hertz and 10 kilohertz for a power of between 1 and 30 watts.

48. (Previously presented) The device as claimed in claim 45, wherein the means (28) for transforming the intermediate alternating voltage (V5) into the first and second alternating voltages (V6; V7) is a transformer (28), the impedance of which is adapted automatically and with no loss of power to the varying impedance of the device.

49. (Currently amended) The device as claimed in claim ~~41~~ 45, wherein the value of the current (I1) is between 1 microAmp and 0.1 Amp.

50. (Currently amended) The device as claimed in claim ~~41~~ 45, wherein the value of the first and second alternating voltages (V6; V7) is approximately 15 kilovolts for an output power of approximately 100 watts.

51. (Currently amended) The device as claimed in claim ~~41~~ 45, wherein the gaseous medium comprises a stream of ambient air or of any other gaseous medium at ambient temperature and atmospheric pressure, and wherein this gaseous medium is charged with any combination of inert particles, non-biological organic particles, contaminant inorganic particles, biological particles such as bacteria, bacterial spores, fungi, fungal

spores and/or viruses, and wherein these particles are destroyed or transformed during their passage through the treatment chamber (40) before leaving the treatment chamber (40).

52. (Previously presented) The device as claimed in claim 41, which comprises at least one manual or automatic probing device, this probing device being used to provide information concerning the presence of the various types of contaminants, this information being transmitted manually or automatically to a control device coupled to the power supply (14), this control device being used to modulate the alternating voltage (V6; V7) and/or the current (I1) according to the level of contamination at the device inlet.